

**ABSTRACT**

The present invention pertains to a method that will increase the efficiency of second strand cDNA synthesis through a mechanism of "terminal continuation" before further RNA amplification by RNA transcription using, for example, a bacteriophage promoter. In a specific embodiment, a transcription promoter is attached to the 5' region of cDNA through the same mechanism of "terminal continuation". Genetic signals are subsequently amplified in a linear manner through RNA transcription. In specific embodiments, the orientation of the transcribed RNA is either sense or antisense, depending on the desired downstream application. In other embodiments, the present invention pertains to methods for extraction and amplification of RNA, particularly mRNA, from histologically stained tissues and cells.

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